

Forecasting of indicators of inclusive growth from agriculture in Uzbekistan

Estimación de indicadores de crecimiento inclusivo desde la agricultura en Uzbekistán

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ABSTRACT

This article examines the scientific, methodological and practical issues of inclusive growth of agriculture. In particular, various methodological approaches to the definition of inclusive growth are given, as a result of the analysis of these approaches, it is concluded that inclusive growth implies not so much economic as social growth, i.e. it implies reducing the difference between the richest and the poorest population. On this basis, the necessity of taking it into account in the development and forecasting of agriculture as the basic branch of the economy of Uzbekistan is justified. In addition, the problems that Uzbekistan may face in the future are being investigated. These problems can be attributed to the rapid growth of the population in agriculture, which in the context of limited land resources will lead to a decrease in agricultural land per inhabitant, which can lead to an aggravation of the food issue and employment in the country.

Keywords: inclusive growth, unemployment, employment, rural population, agricultural products.

RESUMEN

Este artículo examina las cuestiones científicas, metodológicas y prácticas del crecimiento inclusivo de la agricultura. En particular, se dan varios enfoques metodológicos para la definición de crecimiento inclusivo, como resultado del análisis de estos enfoques, se concluye que el crecimiento inclusivo implica no tanto el crecimiento económico como el social, es decir, implica reducir la diferencia entre los más ricos y los más pobres. La población más pobre. Sobre esta base, se justifica la necesidad de tenerlo en cuenta en el desarrollo y la previsión de la agricultura como rama básica de la economía de Uzbekistán. Además, se están investigando los problemas que puede enfrentar Uzbekistán en el futuro. Estos problemas pueden atribuirse al rápido crecimiento de la población en la agricultura, que en el contexto de los recursos limitados de la tierra conducirá a una disminución de la tierra agrícola por habitante, lo que puede conducir a un agravamiento de la cuestión alimentaria y el empleo en el país.

Palabras clave: crecimiento inclusivo, desempleo, empleo, población rural, productos agrícolas.

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1. Introduction

It is known that in Uzbekistan “Strategy of development of agriculture of Uzbekistan till 2030” is developed. Also, the resolution of the Cabinet of Ministers of the Republic of Uzbekistan in accordance with resolution No. 70 of the United Nations General Assembly adopted at the summit on sustainable development in September 2015, as well as in order to organize systematic work on the consistent implementation of the sustainable development Goals of the UN global agenda for the period up to 2030, approved 17 national goals and objectives in the field of sustainable development for the period up to 2030, and approved the “Road map” for their implementation. At the same time, the task of entering the Republic of Uzbekistan by 2030 into the 50 leading countries of the world according to the rating of the Global innovation index is set. One of the national goals is “to Strengthen food security, improve diets and promote sustainable agriculture”. In order to achieve this goal, 5 tasks have been set.

At the same time, the sustainable development of the country's economy, including its key sector – agriculture, should take into account its inclusive growth. Inclusive growth is a multidimensional concept that encompasses not only economic but also social growth.

2. Literature review

The gap between the poor and the rich is now widening everywhere. For example, in OECD countries it is the largest in 30 years. Increasing inequality is important because, according to a world Bank study, a one percent increase in income can reduce poverty by 4.3% in countries with lower income inequality, while those with greater income inequality by only 0.6%. Inequality is closely linked to economic and political instability.

Among the measures proposed to address the above problems is the well-known concept of inclusive sustainable growth abroad. Its basic provisions were initially developed by a number of scientists from academia. These provisions were, in particular, developed by the participants Of the Commission on growth and development, which was headed by Nobel laureate M. Spence and which released in 2008 the report “The growth report. Strategies for Sustained Growth and Inclusive Development”.

Although the concept of inclusive growth was quickly adopted by a wide range of specialists, today there is no single definition of “inclusive growth”. For example, the world Bank defines inclusive growth as high and sustainable (an important condition for poverty reduction), widespread across all sectors of the economy, involving a large part of the labour force and characterized by equality of opportunity in access to markets and resources. The main focus of this definition is on productive employment for all population groups, including women, rather than on income distribution.

The European Commission in the preparation of the strategy “Europe 2020” indicates that inclusive growth includes: the full use of labor potential, poverty reduction and its consequences, the development of social inclusion, the elimination of regional disparities.

Perhaps most consistently, the Organization for economic co-operation and development (OECD) studies, in particular the report “the link between productivity and inclusiveness”, present this thesis. Its authors consider the key challenge facing the developed countries to reduce the growth rate of labor productivity, and the main way of its activation – the creation of equal conditions for all economic agents, conducive to the formation of an atmosphere conducive to increased investment and the development of human capital.

The results of a study of the scientific literature on inclusive growth also showed that there are differences in the definition and interpretation of the term “inclusive growth”. So, let's imagine some of them:

inclusive growth is long-term growth that focuses on generations. That is, it is productive employment instead of direct redistribution of income. However, some redistribution schemes may be made in the short term (Ianchovichina and Lundstrom, 2009).

inclusive growth is growth that not only creates new economic opportunities, but also ensures equal access to opportunities created for all segments of society, especially among the poor (Ali and Hwa Son, 2007).

inclusive growth implies Pro-poor growth; it includes income growth and economic support for the middle class. Growth, which is favourable to the vast majority of people in developing countries, is expected to be more likely to be economically and politically sustainable (Birdsall, 2007).

The literature provides a wide range of strategies to promote inclusive growth. These include:

Enabling environment: government should create and maintain an enabling environment for business and investment in technology and innovation. Competitive exchange rates can also contribute to inclusive growth by increasing exports of manufactured goods. Such exports are often associated with investment in new enterprises and job creation for semi-skilled workers (Birdsall, 2007). Governments also need to promote conditions for equal participation. Effective legal institutions and the rule of law are important for ensuring people's rights to participate in economic growth (Rauniyar and Kanbur, 2009).

Reorientation of public expenditures and social protection: inclusive growth can be achieved through progressive tax systems and expenditures-including short-term transfer policies and greater expenditures on health, education and public infrastructure (Birdsall, 2007; McKay, 2008; Higgins and Prowse, 2010).

Improved access to education and health care could enhance access and participation of the poor in employment and growth opportunities (Ianchovichina and Lundstrom, 2009). Targeted social protection programmes can also provide the poor and vulnerable groups with greater economic security, which can be reduced for greater risk (Rauniyar and Kanbur, 2009).

Human capital and job creation: supporting human capital and capacity building are essential for inclusive growth (Rauniyar and Kanbur, 2009). In addition, increased job creation through growth is necessary to enable people to pursue higher education and exit agriculture (McKay, 2008).

Broad-based sectoral growth: since job creation may still not directly benefit the poorest, it is important to adopt a growth model that is broad-based in terms of sector, region or population coverage. This includes the agricultural sector if it is one in which the poor are disproportionately represented (McKay, 2008). For example, in many Asian countries, a large proportion of the population lives in rural areas and depends on agriculture. Rural infrastructure and agricultural technologies are essential for the development of the rural economy and the provision of rural populations with access to markets, basic services and employment and income opportunities (Rauniyar and Kanbur, 2009).

Infrastructure development: infrastructure quality is the driving force behind inclusive growth (Rauniyar and Kanbur, 2009). Direct targeting of business and trade infrastructure (e.g. transport, energy and telecommunications) to vulnerable and poor groups can improve their access to and participation in growth. Rural women in many countries, for example, spend significantly more time and income on transport, which reduces their ability to invest in higher value-added activities (Higgins and Prowse, 2010).

Government-private sector partnerships: a growing number of profitable and non-profit businesses are taking advantage of opportunities to serve most of the low-income population and those living in more remote areas. It is important that the government has worked with such entities and support businesses in expanding services for the poor and vulnerable (Mendoza and Thelen, 2008; Rauniyar and Kanbur, 2009; Chakrabarty 2009).

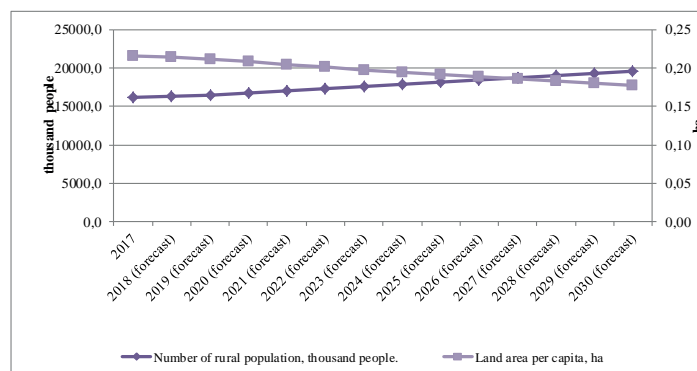
Assessment and monitoring: it is necessary to assess the constraints to sustained high growth for all groups of society and to determine how this affects different segments of society. Governments need to be supported so that they can collect disaggregated data and adopt a comprehensive approach (Higgins and Prowse, 2010; Ianchovichina and Lundstrom, 2009). It is also important to develop ways to measure inclusive growth and the extent and extent to which inclusion is achieved (Ali, 2007; Higgins and Prowse, 2010).

In General, inclusive growth is a multidimensional concept encompassing not only economic but also social growth. The main indicators of inclusive growth are: (1) improving the living standards of the population; (2) reducing income inequality; (3) reducing poverty; and (4) increasing opportunities for equitable use of social and environmental benefits.

On this basis, the medium-and long-term perspective of any country is inclusive economic growth, which reduces the gap between rich and poor and creates opportunities to increase employment and job competitiveness. One of the key sectors of Uzbekistan's economy is agriculture, which employs almost half of the population and provides food security and population, as well as raw materials processing enterprises. Therefore, when developing strategic programs for the further development of the economy, including inclusive growth, it is advisable to start with its basic sectors, such as agriculture. With this in mind, we have tried to forecast some indicators of inclusive growth in Uzbekistan until 2030.

3. Problem statement

It should be noted that our country is rapidly growing population, especially rural. Thus, for the period 2011-2017 the number of rural population increased by 13.3 % or by 1894 thousand people, and amounted to 16120.0 thousand people. There is a high probability that this trend will continue in the future. According to our calculations, by 2030 the population may increase by 24.1 percent, i.e. it will approach the level of 20 million people (Fig.1).



Rice.1 Forecast of growth of rural population and land area per capita¹

¹ All calculations in this article are made by the authors on the basis of statistical data using Microsoft Excel software.

At the same time, there is a degradation of the land Fund, as well as an increase in the unemployment rate, especially in agriculture.

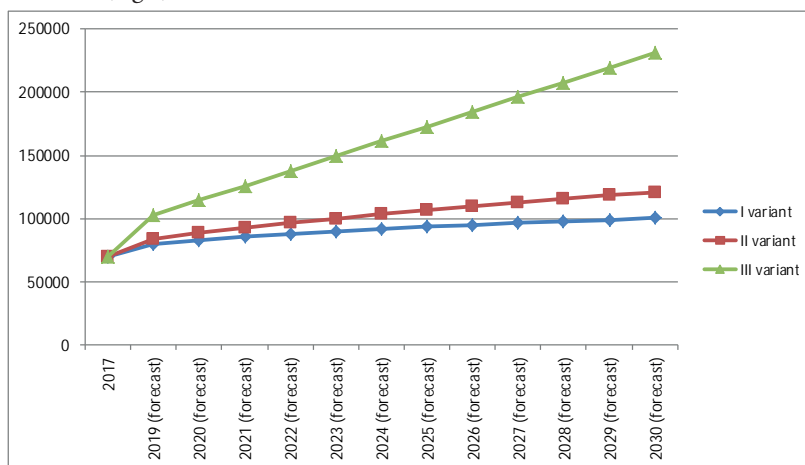
4. The direction of solving the problem

For the purpose of rational use of land resources, solving the problem of unemployment, as well as increasing the income of the population in agriculture of Uzbekistan, it is advisable in some regions of the country to transform farms (in accordance with the legislation the farm is recognized as a business entity engaged in the production of agricultural products using (up to 30 hectares depending on specialization) land plots leased (from 30 to 50 years), in dekhkan farms (which is understood as a family small-scale farm that produces and sells agricultural products on the basis of personal labor of family members on the land plot provided to the head of the family for life inherited possession), since it is in these farms that there is a high efficiency of land use (high yield and growth rate of agricultural production). This situation can be associated with the fact that informal institutions work in dekhkan farms (oral orders, tasks, orders of the head of the economy are executed by family members unconditionally on the basis of centuries-old traditions), which reduce transaction costs.

5. Analysis of forecast parameters

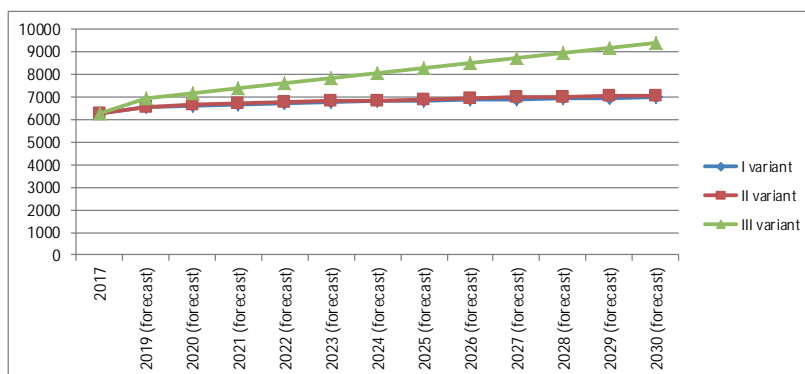
In this regard, taking into account the criteria of inclusive growth, we made a forecast of the volume of agricultural products, the number of employees in agriculture and per capita income employed in agriculture. We made these forecasts according to 3 variants, which correspond to pessimistic, realistic and optimistic scenarios.

According to our calculations, the volume of gross agricultural product in Uzbekistan by 2030 could increase by: I-variant - 10383,6 billion soums, according to the II variant - 120841, billion soums, according to the III variant 114341,0 billion soums (Fig.2).



Rice. 2. Forecast variants of the volume of gross agricultural production in Uzbekistan, billion UZS²

Due to the increase in the number of dekhkan farms, the number of employed in agriculture will increase. So, according to our calculations, by 2030 the number of people employed in agricultural production will be: I –variant - 6991,2 thousand people in II-variant - 7068,3 thousand persons in the III-variant - 9427,6 thousand people (Fig.3).

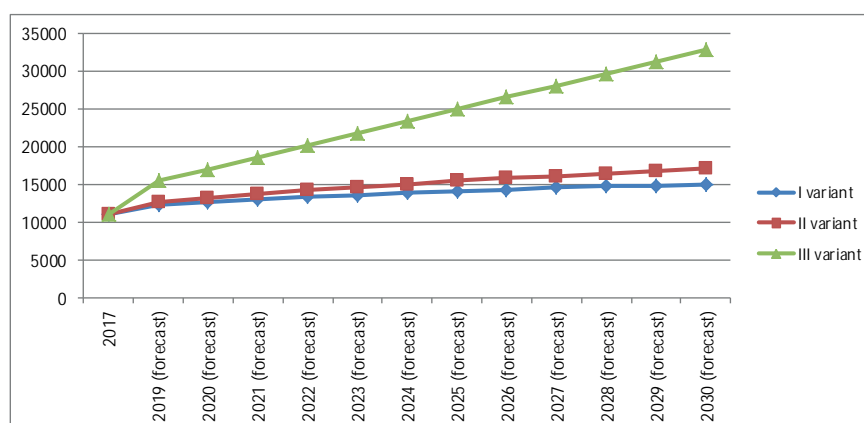


Rice.3. Forecast variants of the number of employed in agriculture of Uzbekistan, thousand people

Another indicator of inclusive growth is the well-being of the population, i.e. the income of the rural population, including the employed. According to our calculations, by 2030 the income of the employed population in agriculture

² The Central Bank of the Republic of Uzbekistan as of 19.08.2019, the exchange rate was set at \$ 1 = 9061.00 UZS, 1 euro = 100921.14 UZS.

will increase: by I-variant – up to 15109.0 thousand sums, by II-variant – up to 17096.2 thousand sums, by III-variant – up to 32904.9 thousand sums (Fig.4).



Rice.4. Forecast variants of income per capita employed in agriculture of Uzbekistan, thousand UZS

Table 1 below shows the quantitative indicators of the forecast for the three above-mentioned indicators of inclusive growth in agriculture, the functions (models) for which the forecast is made, as well as the indicator of their reliability (coefficient of determination).

Table 1 Forecast options for some indicators of inclusive growth of agriculture in Uzbekistan

Years	Volume of agricultural products, billion UZS			Number of employed in agriculture, thousand people			Income per capita employed in agriculture, thousand UZS		
	I variant	II variant	III variant	I variant	II variant	III variant	I variant	II variant	III variant
2017	69504,2	69504,2	69504,2	6269,1	6269,1	6269,1	11086,8	11086,8	11086,8
2018 (forecast)	76020,7	78567,4	90953,0	6488,5	6503,1	6743,8	11855,5	12081,4	13912,5
2019 (forecast)	79650,3	83771,9	102647,0	6563,4	6584,3	6967,4	12340,2	12722,8	15495,2
2020 (forecast)	82719,2	88440,3	114341,0	6626,7	6653,8	7191,1	12750,0	13291,5	17077,9
2021 (forecast)	85377,5	92694,0	126035,0	6681,6	6714,6	7414,7	13105,0	13804,7	18660,6
2022 (forecast)	87722,3	96615,6	137729,0	6730,0	6768,7	7638,4	13418,1	14273,8	20243,3
2023 (forecast)	89819,9	100263,9	149423,0	6773,3	6817,4	7862,0	13698,3	14706,9	21826,0
2024 (forecast)	91717,3	103682,8	161117,0	6812,4	6861,8	8085,7	13951,6	15110,0	23408,7
2025 (forecast)	93449,5	106905,6	172811,0	6848,1	6902,6	8309,3	14183,0	15487,6	24991,4
2026 (forecast)	95043,0	109958,8	184505,0	6881,0	6940,3	8533,0	14395,8	15843,3	26574,1
2027 (forecast)	96518,4	112863,2	196199,0	6911,5	6975,4	8756,6	14592,8	16179,9	28156,8
2028 (forecast)	97891,9	115636,1	207893,0	6939,8	7008,3	8980,3	14776,2	16499,8	29739,5
2029 (forecast)	99176,7	118291,6	219587,0	6966,3	7039,1	9203,9	14947,8	16804,6	31322,2
2030 (forecast)	100383,6	120841,6	231281,0	6991,2	7068,3	9427,6	15109,0	17096,2	32904,9
The trend equation	$y = 19908\ln(x) + 43980$	$y = 44601x + 3518$	$y = 11694x + 32483$	$y = 410,78\ln(x) + 5827,4$	$y = 5828x + 0,0681$	$y = 223,65x + 5625,5$	$y = 2658,6\ln(x) + 7576,6$	$y = 7652,8x + 0,2837$	$y = 1582,7x + 5999$
Determinant ratio	$R^2 = 0,8264$	$R^2 = 0,8586$	$R^2 = 0,9237$	$R^2 = 0,9966$	$R^2 = 0,9955$	$R^2 = 0,9572$	$R^2 = 0,7651$	$R^2 = 0,7877$	$R^2 = 0,8786$

In General, as our forecasts have shown, in the future, the shortage of land resources and employment problems will be more acute. In order to effectively solve these problems, namely, effective and productive land use, pre-employment, the development of family business, reducing the migration process, it is advisable to carry out institutional reforms. One such process could be the transformation of some farms into dehkan farms that effectively use the land leased to them and provide employment for the whole family. To do this, it is necessary to develop an institutional and legal framework to regulate this process, as well as to reflect this in the strategic government document “Strategy for the development of agriculture in Uzbekistan until 2030”, which is at the stage of adoption.

6. conclusion

As the results of our study showed, the growth of the population in agriculture, the degradation of land resources, as well as the increase in the number of unemployed in agriculture, requires a review from the institutional point of view of the guidelines for further development of the sphere. At the same time, the key point is to take into account the criteria of inclusive growth, to which the international community will increasingly pay attention. Taking this into account, we have predicted the main indicators of inclusive growth. According to our estimates, in Uzbekistan by 2030, the growth in agricultural output is expected to grow at 10383,6-114341,0 billion soums, the number of people employed in agriculture – 6991,2-9427,6 thousand people, the size of the income per capita of the population employed in agricultural production – 15109,0-32904,9 thousand soums. One of the ways to achieve these parameters may be the partial transformation of less efficient, in terms of land use, in our case, farms, into dehkan farms, in which there is an increase in agricultural productivity, and in which informal institutions are developed. In this regard, it is necessary to create an institutional framework for the implementation of this process, as well as to reflect this in the strategic document “Strategy for the development of agriculture in Uzbekistan until 2030”.

BIBLIOGRAPHIC REFERENCES

- Abhishek, P., 2009, ‘Inclusive Growth in India: Major Dimensions’, *Economic Affairs*, vol. 54, nos. 3 and 4.
- Ali, I. and Hwa Son, H., 2007, ‘Measuring Inclusive Growth’, *Asian Development Review*, vol. 24, no. 1, pp.11-31.
- Ali, I., 2007, ‘Inequality and the Imperative for Inclusive Growth in Asia’, *Asian Development Review*, vol. 24, no. 2, pp.1-16
- Birdsall, N., 2007, ‘Reflections on the Macro Foundations of the Middle Class in the Developing World’, Working Paper, no. 130, Centre for Global Development, Washington, D.C.
- Chakrabarty, K. C., 2009, ‘Banking: Key Driver for Inclusive Growth’, Address delivered by Dr. K. C. Chakrabarty, Deputy Governor, Reserve Bank of India at Clarity Through Debate’ series organised by the Mint on August 10th, 2009 at Chennai, RBI Monthly Bulletin, September 2009, pp. 1479-1486.
- Commission on Growth and Development, 2008, ‘Strategies For Sustained Growth And Inclusive Development’, The International Bank for Reconstruction and Development / The World Bank, Washington, D.C.
- Commission on Growth and Development, 2010, ‘Post-Crisis Growth in Developing Countries: A Special Report of the Commission on Growth and Development on the Implications of the 2008 Financial Crisis’, The International Bank for Reconstruction and Development / The World Bank, Washington, D.C.
- Europe 2020 Strategy URL [Electronic resource] // Mode of access: <http://www.eur-lex.europa.eu>. – Date of access: 24.11.2015.
- Felipe and Hasan (2006) «The challenge of job creation in Asia» Asian development bank, Manila.
- Global risks 2015 URL [Electronic resource] // Mode of access: <http://www.weforum.org/reports/global-risks-report-2015>. – Date of access: 23.11.2015.
- Hatlebakk M., 2008, ‘Inclusive Growth in Nepal’, Chr. Michelsen Institute, Bergen
- Higgins, K. and Prowse, S., 2010, ‘Trade, Growth and Poverty: Making Aid for Trade Work for Inclusive Growth and Poverty Reduction’, Working Paper, no. 313, Overseas Development Institute, London
- How is life? Measuring well being. OECD. URL [Electronic resource] // Mode of access: http://www.keepeek.com/Digital-Asset-Management/oecd/economics/how-s-life-2015_how_life-2015-en#page28. – Date of access: 24.11.2015.
- Ianchovichina, E. and Lundstrom, S., 2008, ‘What Are the Constraints to Inclusive Growth in Zambia?’ The World Bank, Washington, D.C.
- Ianchovichina, E. and Lundstrom, S., 2009, ‘Inclusive Growth Analytics: Framework and Application’, Economic Policy and Debt Department, The World Bank, Washington, D.C.
- Kumar, P. et al. 2008, ‘Accelerating and Sustaining Inclusive Growth’, Report No. 42844-KE, The World Bank, Washington, D.C.
- Law of the Republic of Uzbekistan
- Law of the Republic of Uzbekistan “On dehkan farm”. dated April 30, 1998.
- Law of the Republic of Uzbekistan “On farms”. dated August 26, 2004.
- McKay, A., 2008, ‘Economic Growth, Inequality and Poverty Reduction: Does Pro-Poor Growth Matter?’, *IDS in Focus*, no. 3
- Mendoza, R. U. and Thelen, N., 2008, ‘Innovations to Make Markets More Inclusive for the Poor’, *Development Policy Review*, vol. 26, no. 4, pp. 427-458
- OECD (2016) The Productivity-Inclusiveness Nexus. Available at: <https://www.oecd.org/global-forum-productivity/library/The-Productivity-Inclusiveness-Nexus-Preliminary.pdf> (accessed 20 March 2018).
- Ortiz and Cummins (2011) «Beyond the bottom billion» Unicef, New York.
- Rauniyar, G. and Kanbur, R., 2009, ‘Inclusive Growth and Inclusive Development: A Review and Synthesis of Asian Development Bank Literature’, Asian Development Bank (ADB), Manila, Philippines
- Ravallion (2013) «How long will it take to lift one billion people out of poverty?» Policy research working paper 6325, World Bank, Washington DC.
- The Decree of the President of the Republic of Uzbekistan “On Approval of the Strategy of Innovative Development of the Republic of Uzbekistan for 2019-2021”. September 21, 2018 N PD-5544.
- The Decree of the President of the Republic of Uzbekistan “On the strategy of further development of the Republic of Uzbekistan”. February 7, 2017 N PD-4947.
- The global competitiveness report 2014–2015 URL [Electronic resource] // Mode of access: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf. – Date of access: 23.11.2015.
- The resolution of the Cabinet of Ministers of the Republic of Uzbekistan “On measures for implementation of national goals and targets on sustainable development for the period till 2030”. October 20, 2018 N 841.
- Zhuang, J., 2008, ‘Inclusive Growth toward a Harmonious Society in the People’s Republic of China: Policy Implications’, *Asian Development Review*, vol. 25, nos. 1 and 2, pp. 22-33.